

REMARKS

Claims 2, 4-8, and 12-14 are amended herein. Claims 2 and 4-14 remain pending in the captioned case. Further examination and reconsideration of the presently claimed application are respectfully requested.

Section 103 Rejections

Claims 2, 4, and 6-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,264,795 to Rider (hereinafter “Rider”) in view of U.S. Patent No. 4,193,123 to Meinke (hereinafter “Meinke”) and U.S. Patent No. 5,712,639 to Hethuin (hereinafter “Hethuin”). Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Rider, Meinke, Hethuin, and U.S. Patent No. 5,914,959 to Marchetto et al. Claims 13-14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rider, Meinke, and U.S. Patent Application Publication No. 2002/0109890 to Davies (hereinafter “Davies”). For the purpose of brevity, only the patentability of independent claims 2, 8, and 13 are discussed below.

To establish a case of *prima facie* obviousness of a claimed invention, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. Second, there must be a reasonable expectation of success. As stated in MPEP 2143.01, the fact that references can be hypothetically combined or modified is not sufficient to establish a *prima facie* case of obviousness. See *In re Mills*, 916 F.2d. 680 (Fed. Cir. 1990). Finally, the prior art references must teach or suggest all the claim limitations. *In re Royka*, 490 F.2d. 981 (CCPA 1974); MPEP 2143.03. Specifically, “all words in a claim must be considered when judging the patentability of that claim against the prior art.” *In re Wilson* 424 F.2d., 1382 (CCPA 1970).

Furthermore, in response to the recent U.S. Supreme Court decision in *KSR Int'l Co. v. Teleflex, Inc.* (U.S. 2007), new guidelines were set forth for examining obviousness under 35 U.S.C. § 103. The U.S. Supreme Court reaffirmed the *Graham* factors and, while not totally

rejecting the “teachings, suggestion, or motivation” test, the Court appears to now require higher scrutiny on the part of the U.S. Patent & Trademark Office. In accordance with the recently submitted guidelines, it is “now necessary to identify the reason” why a person of ordinary skill in the art would have combined the prior art elements, or at least describe the pertinence of the prior art elements set forth in the cited disclosure, in the manner presently claimed. Moreover, even if combined, the *Graham* factors require that a determination of the differences between the combined prior art and the claims at issue is needed. Using these standards, Applicants contend that the Office Action fails to note substantial differences between the combined references and the claims at issue. Some distinctive features of the presently pending claims are set forth in more detail below.

The cited references, alone and in combination, teach away from a non-contacting rotary joint (claims 2 and 13) or first and second units rotatable relative to each other (claims 2, 8, and 13). Independent claims 2 and 13 are amended to describe a non-contacting rotary joint with first and second units rotatable relative to each other. Independent claim 8 is amended to recite similar limitations. Support for the amendments herein can be found in the originally filed claims, e.g., claim 1, as well as the specification, e.g., pg. 5, lines 6-14; pg. 7, lines 7-14; and the abstract on pg. 13.

Contrary to claims 2, 8, and 13, none of the cited references make any mention of or suggest the possibility of a rotary joint, much less a non-contacting rotary joint. Moreover, the cited references specifically teach that the first and second units cannot be rotatable relative to each other. Therefore, the cited references teach away from the present claims.

With regard to Rider, the disclosed locator system is one in which the conductor to be located is buried. Therefore, first and second units must exist aboveground (Rider — Figs. 5-7). Specifically, Rider describes the aboveground first unit 100 being a transmitter that is having its output conductor 180 coupled to a buried conductor 20 (Rider — col. 8, lines 50-68; Fig. 5). A carrier signal of a unique frequency is output from the first unit transmitter and placed onto

conductor 20 (Rider — col. 2, lines 52-53, 64-65; col. 3, lines 1-3). A frequency synthesizer 150 produces the carrier signal that is supplied by the first unit transmitter onto conductor 20 (Rider — col. 9, lines 37-40, 54-55). The receiver detects the presence of the buried conductor by “looking for” that unique frequency since second unit receiver 200 is tuned to the frequency of the transmitted signal (Rider — col. 8, lines 66-68).

Importantly, the first unit transmitter 100 and the second unit receiver 200 must be aboveground. First unit 100 is coupled to, for example, one end of conductor 20, whereas second unit 200 locates conductor 20 by tuning to the carrier signal of the transmitter. As the receiver is drawn nearer to or further from the transmitter, the second unit 200 then detects the presence of conductor 20 along the linear length of the conductor. By design, second unit 200 (receiver) does not rotate relative to the first unit 100 (transmitter) since the buried conductor locating device of Rider is not a rotary joint and, specifically, not a non-contacting rotary joint with first and second units rotatable relative to each other as presently claimed.

With regard to Meinke and Davies, there is no suggestion of first and second units. With regard to Hethuin, the two stations could not form a rotary joint containing two units rotatable relative to each other since the two stations of Hethuin move either towards each other or away from each other, but do not rotate relative to each other (Hethuin — col. 1, lines 15-25).

The cited references, alone and in combination, teach away from a controller that converts a data rate or data package size of a data source into a desired value of data rate or data package size, wherein the desired value of data rate or data package size is dynamically adapted by the controller based on the position of the first and second units relative to each other or based on a point of time. Independent claims 2 and 8 describe not only a first unit, but a controller coupled between a data source and a transmitter of the first unit. The controller controls a serial data stream sent from the data source. Moreover, the controller converts a data rate or data package size into a desired value of data rate or data package size. The controller comprises means for storing a transmission function. Importantly, the

transmission function adapts the data rate or data package size in a dynamic manner based on a position of the first and second units relative to each other or based on a point of time.

The Office Action admits that:

Rider does not expressly disclose converting a data rate or data package size of said data source into a desired value of data rate or data package size; and means for storing a transmission function, which serves to adapt the desired value of data rate or data package size in a dynamic manner based on a position of the first and second units relative to each other or based on a point of time (Office Action — pg. 4).

However, the Office Action alleges that Rider teaches “processing/modulating said serial data stream from said data source with a default baud rate (Office Action — pg. 4). Further, the Office Action alleges that Meinke teaches data rate conversion and that Hethuin teaches adapting bit rates to relative distances between two stations (Office Action — pg. 4). The Office Action alleges it would be obvious to incorporate Hethuin’s teachings into the system of Rider and Meinke “in order to maintain quality of transmission” (Office Action — pg. 4). Applicants respectfully disagree.

Rider makes no mention whatsoever of changing the so-called “default baud rate” or that the default baud rate can even be changed, much less changed based on the claimed position of first and second units relative to each other. In fact, Rider states that the carrier signal frequency does not change relative to the conductor to be located. Changing the carrier signal or sine wave signal on which data can be modulated is not permitted in Rider. While Rider describes a baud rate of data to be modulated onto the carrier signal, nowhere is there any suggestion that the baud rate can be changed based on the position of the first and second units relative to each other or based on a point of time — as presently claimed. Once the default baud rate of Rider is set, it does not change. Similar to the carrier signal, the baud rate of the modulated digital data from the SCI remains fixed in accordance with the data format used (Rider — col. 12, lines 8-12, 59-63). While Rider mentions that “microcontroller 111 programs its internal SCI for the correct data format, baud rate, etc.” (Rider — col. 12, lines 60-

61), Rider makes no mention of how the baud rate is changed or how a “correct” or “default” baud rate can be selected.

Not only does Rider fail to provide teaching or suggestion for dynamically adapting the data rate or data package size of a serial data stream based on the position of the first and second mobile units relative to each other or based on a point of time, Rider further fails to providing teaching or suggestion for changing data rate based on rotatable first and second mobile units within a non-contacting rotary joint as claimed.

Similar to Rider, Meinke makes no mention of changing data rate or bit rate depending on the position of first and second units, much less first and second units of the claimed non-contacting rotary joint whereby such units rotate relative to each other within that joint. While Meinke suggests the need for converting data rate between arrangements that operate at different rates, Meinke fails to teach or suggest dynamically adapting the data rate or data package size of a serial data stream based on the position of the first and second mobile units relative to each other or based on a point of time as claimed. Meinke further fails to provide any teaching or suggestion for storing a transmission function within the controller for achieving such dynamic adaption.

While transceiver stations of a network in Hethuin can move relative to each other and the bit rate can change based on the distance between those stations, Hethuin makes no mention of changing a data rate or data package size based on the position of first and second units within a non-contacting rotary joint whereby such units rotate relative to each other within that joint.

The cited references, alone and in combination, teach away from a transmitter conductor array that defines a transmission path between the transmitter of the first mobile unit and a receiving antenna of the second mobile unit, wherein the transmission path is subdivided into segments, and wherein said electrical signals are conducted exclusively at

positions where segments of the transmission path are present. Present claim 13 further defines a transmitter conductor array of a non-conducting rotary joint. The transmitter conductor array defines a transmission path between the transmitter of the first mobile unit and a receiving antenna of the second mobile unit, wherein the transmission path is subdivided into segments, and wherein said electrical signals are conducted exclusively at positions where segments of the transmission path are present.

The Office Action admits that both Rider and Meinke “do not expressly disclose wherein the transmission path is subdivided into segments, and wherein said electrical signals are conducted exclusively at positions where segments of the transmission path are present” (Office Action — pg. 8). However, the Office Action turns to Davies as allegedly teaching this limitation. Applicants respectfully disagree.

While Davies describes subdividing a transmission path into segments, Davies specifically states that “[b]etween the segments A there are arranged switching elements 7 for providing a through-connection between the segments A” (Davies — ¶ 0030, emphasis added). Therefore, using Davies, signals are not conducted exclusively at positions where those segments are present but, instead, are conducted through and between segments.

For at least the reasons stated above, none of the cited references teach or can be combined to teach the limitations set forth in independent claims 2, 8, and 13. Accordingly, claims 2, 8, and 13, as well as claims dependent therefrom, are believed patentably distinct over the cited references. Therefore, Applicants respectfully request removal of this rejection.

CONCLUSION

The present amendment is in response to the final Office Action mailed January 5, 2011. In view of the amendments and remarks herein, Applicants assert that pending claims 2 and 4-14 are in condition for allowance. If the Examiner has any questions, comments, or suggestions, the undersigned attorney earnestly requests a telephone conference.

No fees are required for filing this amendment; however, the Commissioner is authorized to charge any additional fees which may be required, or credit any overpayment, to Daffer McDaniel, LLP Deposit Account No. 50-3268.

Respectfully submitted,

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Date: May 5, 2011